

Remarks:

In reply to the Office Action of May 31, 2007, applicant has followed the suggestion of the Examiner and replaced "second pump" with "hydraulic motor" in all of the affected claims. With this change, the rejection of the claims on the basis of 35 U.S.C. § 112 is believed to be rendered moot. Reconsideration and withdrawal of this ground of rejection is respectfully requested. Applicant has also amended the independent claims to distinguish the invention from the prior art.

Hopfe US Patent 4,335,576 describes a system for utilizing the hydrodynamic energy of waves in a body of sea water, the system including a plurality of hydraulic cylinders 4, each cylinder having an input in communication through a hydraulic check valve 5 with an air cushioned low pressure reservoir 6 to permit flow of water into the respective hydraulic cylinder 4. A hydraulic check valve 7, connected to each cylinder 4, permits the water to flow from the respective hydraulic cylinder to an air cushioned high pressure reservoir 8. A hydraulic motor or turbine 9 is hydraulically connected between the two reservoirs 6, 8 and mechanically coupled to an electrical generator 10. Further, Hopfe suggests that the plurality of hydraulic cylinders 4 could be replaced by a rotary pump and windlass arrangement, (Column 3, lines 51 – 65) although no specific disclosure of such structure is provided.

The invention claimed in the present application is directed to a system for extracting energy from a body of water containing a current. This current of water passing the applicant's system is not the same as the wave action contemplated by Hopfe. The applicant's claims require the presence of a rotor in the body of water in a position to interact with the passing current. What ever might be suggested by Hopfe's "rotary pump and windlass arrangement", it does not equate to applicant's

rotor in a body of water in a position to interact with a passing current. Even if given such an interpretation, there is no discussion of the speed of operation of Hopfe's "rotary pump and windlass arrangement." There is no disclosure or suggestion in Hopfe of the first pumps and hydraulic motor being sized such that an any given non-zero pressure in the fluid circuit coupling between the outlet of the plurality of first pumps and the input of the hydraulic motor, the speed of the hydraulic motor is greater than the first pumps as required by applicant's claim 13. Likewise, there is no disclosure or suggestion in Hopfe of the first pumps and hydraulic motor being sized such that an any given non-zero pressure in the fluid circuit coupling between the outlet of the plurality of first pumps and the input of the hydraulic motor, the speed of the drive shaft of the electrical generator is greater than the speed or the output shaft of the rotor as required by applicant's claim 17. Accordingly, applicant respectfully traverses the rejection of the claims under 35 U.S.C. § 102 on the basis of Hopfe. Reconsideration and withdrawal of this ground of rejection is respectfully requested.

WO00/50768, which is the foreign parent of Praenkel, US Patent 6,652,221, discloses a marine turbine installation that includes a turbine coupled to a support column, the turbine having a rotor with an output shaft that is positionable in a body of water having a current. The document contemplates that the gearbox 29 may be replaced by a hydraulic transmission system (using either suitable hydraulic oils or fluids or even sea water) and the generator 28 may then be driven by a hydraulic motor either in the nacelle 25 or even located remotely, such as above the column 1, in the housing 8 on top, or even remote from the installation with hydraulic transmissions pipes running along the seabed 3. (See paragraph bridging columns

4 and 5 of US Patent 6,652,221) However, there is no disclosure or suggestion in Praenkel of the first pumps and hydraulic motor being sized such that an any given non-zero pressure in the fluid circuit coupling between the outlet of the plurality of first pumps and the input of the hydraulic motor, the speed of the hydraulic motor is greater than the first pumps as required by applicant's claim 13. Likewise, there is no disclosure or suggestion in Praenkel of the first pumps and hydraulic motor being sized such that an any given non-zero pressure in the fluid circuit coupling between the outlet of the plurality of first pumps and the input of the hydraulic motor, the speed of the drive shaft of the electrical generator is greater than the speed or the output shaft of the rotor as required by applicant's claim 17.

Cros US Patent 4,149,092 also discloses a marine turbine installation including rotors positionable in a body of water such as a stream having a current that drives the rotors. The rotors are coupled to pumps that are in turn coupled to a hydraulic system including motors coupled to the driveshaft of a generator. Cros contains considerable discussion concerning the control of the speed of the driveshaft of the generator, including the statement "the speed of the turbine is not related to that of the alternator by means of a multiplier having a fixed ratio but can on the contrary be adjusted at any moment to the flow rate of water which passes through the turbine in order to obtain the highest efficiency whilst the speed of the alternator remains the speed of synchronization with the distribution network." (Column 13, lines 13-20) There is however no disclosure or suggestion in Cros of the first pumps and hydraulic motor being sized such that an any given

non-zero pressure in the fluid circuit coupling between the outlet of the plurality of first pumps and the input of the hydraulic motor, the speed of the hydraulic motor is greater than the first pumps as required by applicant's claim 13. Likewise, there is no disclosure or suggestion in Cros of the first pumps and hydraulic motor being sized such that an any given non-zero pressure in the fluid circuit coupling between the outlet of the plurality of first pumps and the input of the hydraulic motor, the speed of the drive shaft of the electrical generator is greater than the speed or the output shaft of the rotor as required by applicant's claim 17.

This lack of disclosure or suggestion in any of the applied references of affirmative requirements of independent claims 13 and 17 precludes a finding of obviousness from some combination of these references. Accordingly, applicant respectfully traverses the rejection of the claims as now amended under 35 U.S.C. § 103 on the basis of the proposed combination. Reconsideration and withdrawal of this ground of rejection is respectfully requested. With the forgoing amendment to the claims, the present application is believed to be placed in condition for allowance. The subscribing attorney would welcome a phone conference to attend to any matter that can be addressed by an Examiner's Amendment.

Respectfully submitted,



A. James Richardson
Reg. No. 26,983

BRINKS HOFER GILSON & LIONE
One Indiana Square, Suite 1600
Indianapolis, Indiana 46204-2033
Telephone: (317) 636-0886
Fax: (317) 634-6701